59. Show that \( K \leq K' \) and \( 0 < \alpha < 1 \) implies \( p(\alpha K + (1 - \alpha)K') \leq \alpha p(K) + (1 - \alpha)p(K') \).

60. Show that \( T \leq T' \) implies \( C(T) \leq C(T') \).

61. Calculate and draw a bull put spread’s profit function.

62. Use put-call parity to relate the initial investment for a bull spread created using calls to the initial investment for a bull spread created using puts.

63. Suppose that put options on a stock with strike prices $30 and $35 cost $4 and $7, respectively. How can the options be used to create (a) a bull spread and (b) a bear spread? Illustrate the profit and payoff for both spreads.

64. Three put options on a stock have the same expiration date and strike prices of $55, $60, and $65 and market prices $3, $5, and $8. Explain how a butterfly spread can be created. Illustrate the profit from the strategy. For what range of stock prices would the butterfly spread lead to a loss?

65. Draw graphs showing the variation of an investor’s profit and loss with terminal stock price for a portfolio consisting of:

   (a) One share and a short position in one call option.
   (b) Two shares and a short position in one call option.
   (c) One share and a short position in two call options.
   (d) One share and a short position in four call options.

   In each case, assume that the call option has an exercise price equal to the current stock price.

66. Use put-call parity to show that the cost of a butterfly spread created from European puts is identical to the cost of a butterfly spread created from European calls.

67. A call option with a strike price of $50 costs $2. A put option with a strike price of $45 costs $3. Explain how a strangle can be created from these two options. What is the pattern of profits from the strangle?